



Occupational Therapy & Upper Extremity Prosthetics: Grasping for Success

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OVERVIEW OF CAPSTONE SITE



Buckner Prosthetics is located in Jackson, MS. Specializing in prosthetics and orthotics providing outpatient services including patient evaluation, on-site prosthetics and orthotics design, fabrication, and modifications. The main patient population focus is upper extremity (UE) amputation.

LITERATURE SUMMARY

Prosthetics have been used for ages, and technology is advancing every moment to make the devices better. A person with a prosthetic needs lifelong care due to changes in shape of the residual limb and durability of the device. A person will need a new prosthetic every few years. The prosthetist has to consider the financial situation of the person. Malone et al. (1984) showed a 93% success rate for patients who fit within 30 days of the amputation and only 42% success rate for patients who were fit after 30 days. Additionally, a cross-sectional study showed the satisfaction the participant had with the device points to the critical role of OT in the early stages of prosthetic care. (Resnik, Borgia, Heinemann & Clark 2020).

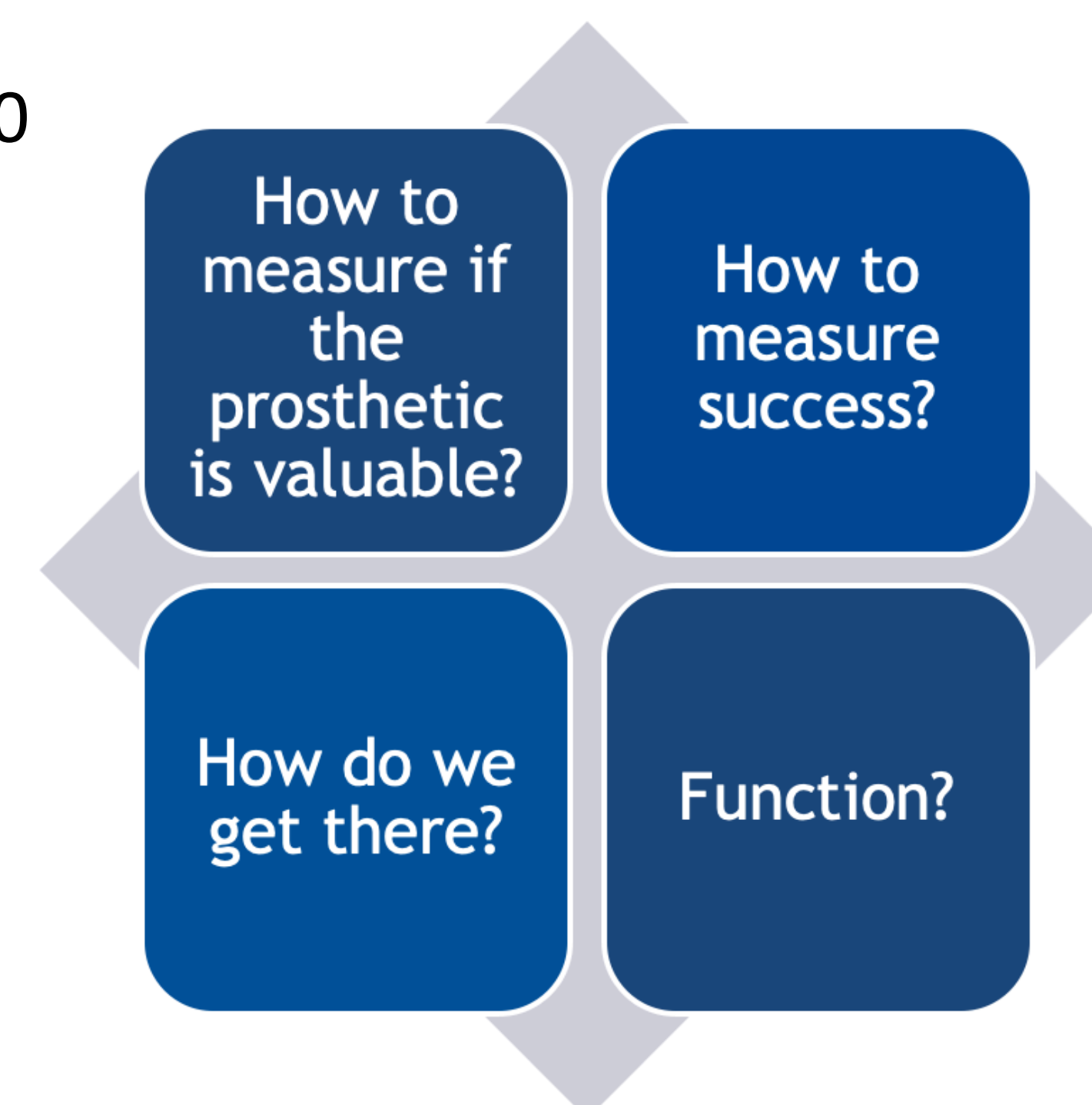
NEEDS ASSESSMENT

Phase I: Phone call & site visit June 2020 with capstone site mentor

Phase II: In person conversations with site mentor February 2021

- Both phases consisted of an interview questionnaire and dialogue as methods used for data collection.

Questions identified in the interviews are in the graphic to the right.



PURPOSE

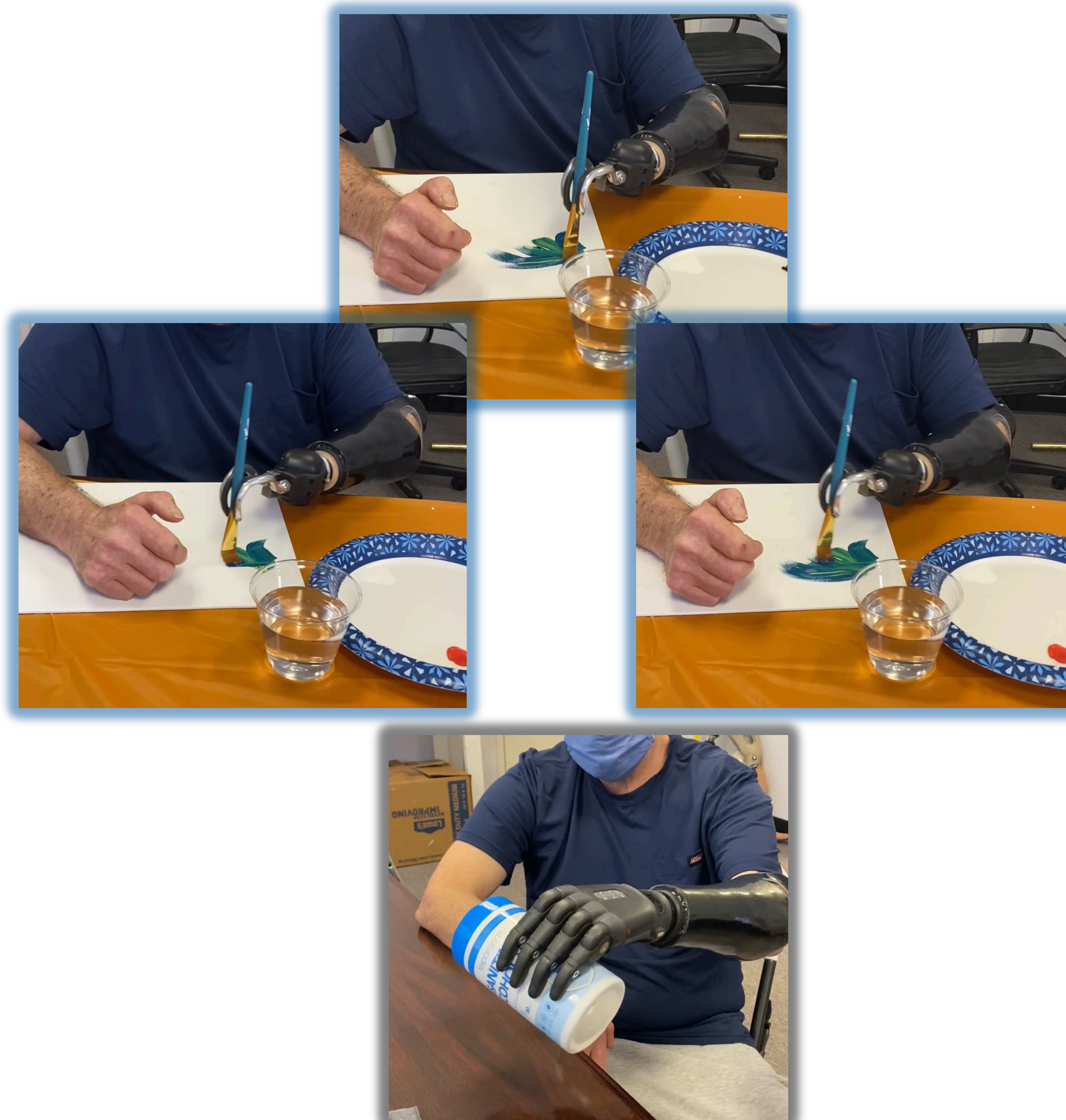
The purpose of this Capstone Project is to explore how people with upper extremity prosthetics utilize their device and the role OT plays in accomplishing their everyday desires.

PROJECT DEVELOPMENT AND IMPLEMENTATION

The capstone student focused on four main objectives that guided the development of the capstone project. Research shows how important occupational therapy's role is in the rehabilitation process of a person with an UE prosthetic. The most ideal situation for rehabilitation training is for a prosthetic clinic to have access to an OT on site. Therefore, the capstone student composed a rationale for the cost of contracting an occupational therapist for OT services related to UE prosthetic training. Through the project, a report was generated for Buckner on billing and reimbursement for OT services and ideas for contracting an OT.

A prosthetic clinic might have access to an OT to provide services, yet studies show that OTs receive little, if any, education related to prosthetics. The capstone student developed a rehabilitation assessment program focusing on occupational therapy for patients with an UE amputation. This template serves as a quick reference guide to provide the progression of OT training. The capstone student also developed a tool related to patient evaluation for upper extremity amputees using a prosthetic device. These outcome measures provided potential progress and documentation for insurance.

Lastly, the capstone student investigated how to determine success of an UE prosthetic device through 11 patients with an unilateral UE amputation at Buckner. Information was gathered through semi-structured interview questions. Questions provided insight for staff on using a prosthetic device in the current patient population at Buckner.



PROJECT EVALUATION

Surveys assessed the impact of the student's capstone project. To measure the rehabilitation assessment program the capstone student surveyed a case study that participated in OT sessions lead by the capstone student. The participant "strongly agreed" to every answer on survey. The participant's scores on the QuickDASH and PROMIS outcome measures also improved showing positive outcomes of the program.

The two site mentors were also surveyed in order to provide feedback to the capstone student. One mentor stated, "Capstone student added value to our department".

PROJECT SUMMARY AND FUTURE RECOMMENDATIONS

Occupational therapy plays a vital role in rehabilitation process for someone who has lost a limb. Approach using the upper extremity prosthetic as a tool and not as a replacement for someone's limb lost. Psychological factors and the well-being of the person cannot be overlooked.

The capstone experience provided positive reinforcement and facilitated a deeper reflection of gained knowledge secondary to no on-site OT. The capstone student took initiative to provide the best possible care for the patients. The capstone student created a foundation for the next UMMC capstone student to continue to grasp for success for these upper extremity amputees at Buckner Prosthetics.

An aspect that the capstone student did not address, yet occurred throughout the capstone experience was the prevalence of "nerve pain" in upper extremity amputees. Explanations for nerve pain should be further investigated to address this common issue that occurs in amputees.

References available upon request.

Thank you so much for your contributions to my project. To the capstone mentor: Rick Psonak, capstone site staff member: Richard Boleware, and capstone faculty advisor & coordinator: Penny Rogers